NEWS REPORT

NATIONAL ACADEMY OF SCIENCES
NATIONAL RESEARCH COUNCIL

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NEWS REPORT

National Academy of Sciences *National Research Council*

VOLUME VII *May–June 1957* NUMBER 3

The Academy's Role in the Hungarian Scientists' Fight for Freedom

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IN PREVIOUS issues of NEWS REPORT actions of the National Academy of Sciences and its Governing Board, relating to the events of October 1956 in Hungary and their aftermath, are recorded. These actions include a resolution to make the services of the Academy available to assist the displaced scientists and professional personnel in their efforts to become re-established.

Pursuant to these actions, the Academy in mid-December offered to initiate a program of professional evaluation and placement of scientifically qualified persons among the refugees arriving in the United States. This offer was promptly accepted by the President's Committee for Hungarian Refugee Relief, appointed on December 12 by President Eisenhower. Seven days later the Academy set up an office at Camp Kilmer, the official refugee reception center located in New Jersey 30 miles southwest of New York City. This office remained open continuously including Saturdays, Sundays, and holidays, through April 30, 1957, when the U. S. Immigration and Naturalization Service shifted all refugee operations to the Hotel St. George in Brooklyn, N. Y. The Academy immediately transferred its office to the new location where it is currently operating.

Between December 19 and May 1 the Academy assisted 750 of the Hungarian scientists and other scholars who arrived at Camp Kilmer. In addition the Academy sent a special mission to Austria to interview the scientists and engineers among the refugees still stranded there and to help these people find professional opportunities in countries of the free world. As a result of this mission approximately 300 additional Hungarian scientists with their families have either come, or soon will come, to the United States, and nearly 75 will go to other countries.

Initiation of the Academy's activities in behalf of the Hungarian refugees was made possible by the fact that the Ford Foundation a year earlier had provided a substantial grant to the Academy for its work in international relations. A portion of this grant was made available immediately to launch the program. Later, the Rockefeller Foundation provided funds for evaluation and placement activities, language and orientation courses, and for a limited number of fellowship awards. Valuable pro-

fessional assistance was rendered by the American Council for Emigres in the Professions, which maintained continuously a staff of two or three people at the Academy's office at Camp Kilmer and later at Brooklyn.

The Academy's Program at Camp Kilmer

It is doubtful whether anyone can picture adequately the great human drama enacted at Camp Kilmer. Only those who lived there and worked with the refugees can appreciate in part what went on in the hearts of these people.

It was wonderful to watch the change that took place during the first days following a refugee's arrival at the camp. Although housing facilities were not ideal, the U. S. Army personnel under command of Brig. Gen. Sidney C. Wooten spared no efforts in making Camp Kilmer as attractive as possible and in supplying the many services required. The welcome mat was out, Christmas lights were on, and many of the earlier fears and worries began to disappear.

But the real transformation occurred when the breadwinner of the family learned that he had a position and would shortly leave camp to commence a life of freedom in the United States. With hopes fulfilled, family smiles came easily and just as easily came tears, the universal expression of mixed emotions.

Seeing these changes did something to everyone working at Camp Kilmer. Members of the Academy's staff who came to assist for a few days, remained for weeks. Once there, it was almost impossible to leave. The usual 8-hour day extended to 12 and 16 hours, and the 5-day week was entirely forgotten.

From the outset the President's Committee for Hungarian Refugee Relief, under Chairman Tracy S. Voorhees and resident Vice-chairman Leo C. Beebe, was warm in its welcome of the services of the Academy staff and gave every kind of assistance and support. Col. Jack B. Dunn, coordinator for the cooperating agencies, was most helpful throughout the operation.

No one knew whether the operation would continue for a few weeks or several months. Each day brought new developments and new problems. In the face of these conditions the Academy organized its office under the joint direction of the Office of International Relations and the Office of Scientific Personnel. The authors of this article became co-directors of the operation, each spending part of his time at Camp Kilmer and part at his office in Washington where other responsibilities awaited him. Continuity in direction was maintained by Edmund C. Rowan, Assistant to the Director of the Office of International Relations, who was appointed Executive Officer.

Soon after the Academy's arrival at Camp Kilmer, it became clear that the first order of business was to make known the existence of the Academy's office to the scientists and other professionally trained people among the refugees arriving at the camp. This was not as easy as might be expected; in fact, complete success was never achieved because eager relatives and sponsors hustled many of the refugees away from the camp almost immediately upon their arrival from Austria. However, more than 750 professional persons (holders of a college degree or the equivalent) came to the office (see fig. 1). This figure represents approximately 60 percent of the total number of persons who might have profited by a visit to the Academy's office. Many of those who left camp without calling at the Academy's office have since returned as visitors or have written to the Academy to obtain advice concerning professional placement opportunities.

The interview and placement procedures followed by the Academy at Camp Kilmer may be summarized briefly. Each person was given a preliminary interview, at which time a questionnaire was completed by the interviewer. The refugee furnished full details on his academic training, professional employment, language competence, publications, and special interests. On the basis of this preliminary interview, it was determined whether another interview of greater depth was needed. Many of the refugees had fled so precipitately that they did not have time to bring documents and records, which would attest to their professional attainments. Thus the depth interviews were important and became the

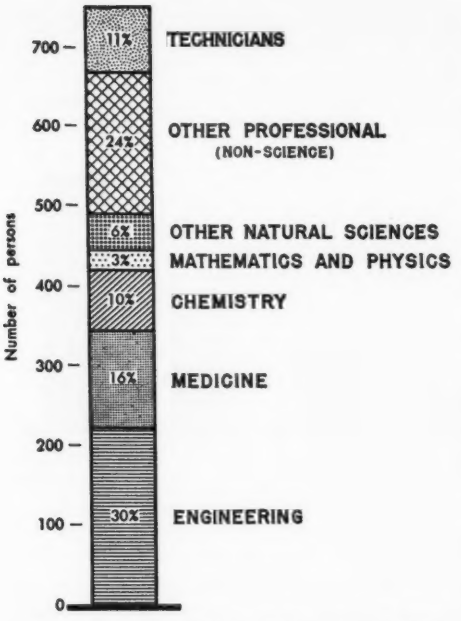

Figure 1.—Composition of the group of Hungarian refugees which came to the Academy's office at Camp Kilmer.

general rule. Whenever possible, the refugee was interviewed and evaluated by an American scientist in the same field of specialization.

For professional interviewing, the Academy relied on the voluntary services of more than 30 professional members of the universities located within overnight range of Camp Kilmer. Eminent scientists from the Massachusetts Institute of Technology, the Rockefeller Institute, Columbia, Princeton, Rutgers, Johns Hopkins, and other universities and academic centers gave generously of their time.

Following the professional interview, a member of the Academy team, usually the placement officer, talked with the scientist concerning his own desires or plans. Was he interested in accepting industrial employment or would he prefer to continue his work at a university? In what section of the country would he like to live? When these and other questions were answered, the placement procedure went into operation. A master file of position openings, containing literally hundreds of opportunities, was consulted. This file was compiled from the communications received from educational institutions and industrial firms, which had been invited by the Academy to assist in the program or had learned of the undertaking through the press. A telephone call was made to a likely employer or a university where the individual would like to continue his studies, and an appointment for an interview was arranged. If the first approach was not successful, other institutions were contacted, and the operation was repeated until a suitable placement could be effected.

However, all was not smooth sailing in the placement area. There were many difficulties which complicated the lives of the placement officers and prolonged the operations. There was the continuing problem of coordinating the Academy's work with that of nearly 20 voluntary agencies which were assisting the refugees. Because of the large number of refugees arriving, particularly in January, there was pressure to move people out as rapidly as possible, sometimes making it impossible to give adequate attention to professional placement. Frequently someone interviewed by the Academy disappeared overnight; he had been sent out to some part of the country where his professional placement possibilities were unknown. Physicians presented a special problem because many states make no provision for licensure of foreign trained physicians. Lawyers whose training and experience dealt with a different philosophy of law could not hope to practice their profession in the United States. The placement of engineers, and others seeking industrial employment was complicated because interviews by private industry were not permitted at the camp.

In spite of these difficulties the Academy's office at Camp Kilmer placed or assisted in the placement of more than 500 of the 750 refugees who visited the office (see fig. 2). Many of the scientists and engineers accepted industrial positions commanding salaries ranging from $4,000 to $15,000 per year. Others found opportunities in universities, research institutions, hospitals, libraries, agricultural experiment stations, and government research laboratories. Still others received pre-doctoral or

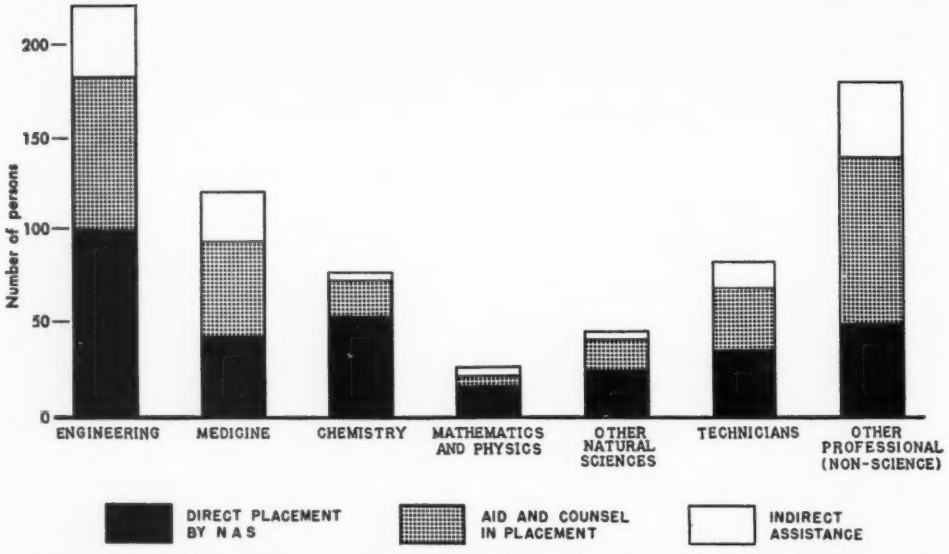

Figure 2.—Record of Academy assistance in the professional placement of Hungarian refugees who came to the Academy's office at Camp Kilmer. Nearly 85% of this group were placed directly or assisted in their placement by the Academy with the valuable cooperation of the American Council for Emigres in the Professions.

post-doctoral fellowship appointments in graduate schools from coast to coast.

It should be emphasized that in almost all instances the Hungarian refugees have filled positions for which American scientists and engineers were not available. There is a serious shortage of professionally trained personnel in the United States. Consequently, the arrival of young and well-trained Hungarian scientists is a valuable contribution both to the academic community and to the national economy. In money terms alone the training of these well advanced young scientists and engineers behind the Iron Curtain represents an investment of many millions of dollars.

The true value of the Hungarian migration to the countries of the free world can perhaps never be measured adequately. The group as a whole is a young group compared to other migrations. Most of the professional people are between 25 and 35 years of age. Their contribution to the working population is significant since in our population this age group shows a proportionate deficiency in number. There seems little doubt that the Hungarian scientists who have come to the United States will emerge as worthy successors to the many distinguished Hungarian-Americans who now contribute so much to American science.

Early in the operation the need to provide training in English became apparent, because a number of the refugees could not be placed appropriately until they had acquired some fluency in speaking English. Fortunately through the warm cooperation of Lewis Webster Jones, President of Rutgers University, and David Denker, Assistant Provost, facilities were made available to the Academy in one of the University's new dormitories, and the language training program was launched. This course under the direction of Rev. Bradford Abernathy, Chaplain of the University, lasted 8 weeks. During this period the students received intensive training in English and participated in excursions and evening discussions designed to acquaint them with some of the history, culture, and customs of America.

The 40 scientists selected for the language program were graciously received into the academic community of Rutgers University. They were entertained in the homes of faculty members, and the library

and laboratory facilities of the University were made available to them. At the close of the course "graduation exercises" were held in the auditorium of the Waksman Institute of Microbiology. Brief talks were given by Tracy S. Voorhees, Chairman of the President's Committee, Detlev W. Bronk, President of the Academy, and by three members of the graduating class. The proficiency in English exhibited on this occasion by these students provided ample testimony of the success of the program.

Most of the Academy staff lived in the same university dormitory as the Hungarians taking the language course. This arrangement proved mutually profitable and enjoyable. In the evenings, the Academy staff had occasion to provide counsel with respect to professional opportunities in the universities, research laboratories, and industrial establishments of the country. They also learned much about conditions in Hungary and the dramatic fight for freedom which brought these people to the United States.

During and immediately following the close of the language program the Academy staff located suitable professional positions for the participants. Those not professionally employed are continuing their graduate studies in a university.

The Academy's Mission to Austria

Throughout the months of January and February letters arrived at the Academy's office at Camp Kilmer from Hungarian scientists stranded in Austria. The writers were professionally trained people desperately seeking opportunities to continue their work. Why did not these people come in the planes and ships that were bringing refugees to the United States daily? Some did come, but only a very few of those who had written to the Academy.

Believing that there had to be some explanation for this situation, the Academy asked one of its members, Paul Weiss of the Rockefeller Institute, to go to Vienna to investigate. He reported that many of the refugees who had written to the Academy had arrived in Austria after December 1, 1956, and thus were not eligible to go to the United States under the parolee program. It appears that the number of refugees requesting parolee status was larger than could be accepted by the U. S. Immigration and Naturalization Service and, therefore, a cut-off date had to be selected. Post-December 1 arrivals, for the time being at least, were not considered to be "true refugees" from the October revolution. Confronted with this situation and seeing no early solution in sight, Dr. Weiss proposed that the Academy establish an office in Vienna to help the scientists among the refugees still stranded there to find professional opportunities in the free nations of the world. Whether or not they came to the United States was unimportant; what was important was to give these people a chance to re-establish themselves in a free scientific community.

Early in February the Academy decided to extend its program to Austria. Discussions were held with officials of the U. S. Department of State and the U. S. Immigration and Naturalization Service, procedures for coordination of Academy operations on both sides of the Atlantic were worked out, and an initial team was selected to undertake the assignment.

On March 20, three people met at Idlewild Airport: Ralph Cleland, a botanist, Dean of the Graduate School at the University of Indiana; Richard T. Arnold, a chemist, Alfred P. Sloan Foundation, Inc.; and Wallace W. Atwood, Jr., a geologist-geographer, who was to serve as Director of the Academy's Mission to Vienna.

Two days later a conference was held at the American Embassy in Vienna. Those present were the American Consul, Roger L. Heacock, veteran of the hectic days following the October revolution; H. L. Hardin and David Strubb, representatives of the U. S. Immigration and Naturalization Service (INS); three members of the Embassy staff; and the Academy's three-man team. In less than an hour a tentative plan was agreed upon: the Embassy would provide space and office equipment for the Academy's operation and the INS would assist the Academy team on matters involving the Immigration Service. The purpose of the mission was clear and the December 1 cut-off date referred to above was abandoned.

Before proceeding further the Academy team discussed the purpose of its mission with Professor Richard Meister, President of the Austrian Academy of Sciences; Professor Hans Schima, Rector of the University of Vienna; and with the Deputy Minister in charge of Higher Education for Austria. Additional conversations were arranged with senior members of the University faculty to learn their views on what was needed. Without exception these leaders of science and education in Austria were pleased that the Academy had sent a team to Vienna.

Once assured that the Mission was welcome, no time was lost in establishing an office and preparing the forms which would be needed to register the scientists and to schedule them for professional interviews. Dr. Arnold took charge of equipping the office, Professor Cleland cut stencils, and the third member of the team recruited interpreters and office staff. At this point an S O S was sent to Washington requesting Rita Wiley, Administrative Secretary of the Office of International Relations, to take the next plane to Vienna. She soon became a full-fledged member of the team.

Arrival of the Academy's Mission in Vienna received no notice in the papers or on the radio. However, news of the Mission spread like wildfire and before the ink was dry on the forms, the first Hungarian scientists were knocking at the door. The Academy, however, was not willing to rely completely on the refugee grapevine and decided, therefore, that a formal message should be sent to the scientists and that it should be distributed to the refugee camps, the universities, and the various offices frequently visited by the refugees. The message, which was printed in English and Hungarian, is reproduced below.

A MESSAGE TO THE SCIENTISTS AMONG THE RECENT REFUGEES FROM HUNGARY

The National Academy of Sciences of the United States of America has established a temporary office in Vienna in the hope that it may be able to assist some of the refugee Hungarian scientists who are still in Austria. Among those whom the Academy feels competent to assist are **holders of a diploma or doctorate degree in one of the natural sciences (physical, biological or basic medical sciences), or in mathematics or engineering.**

Representatives of the Academy will be available to give advice with respect to professional opportunities in the universities, research institutions and industrial laboratories of the United States. In addition, they will try to help those who seek professional opportunities in countries other than the United States. Such efforts will be handled through professional colleagues in sister Academies and Research Councils in the countries concerned.

The establishment of a temporary office in Vienna is a natural outgrowth of the Academy's program at Camp Kilmer, New Jersey. Here, the Academy has interviewed a majority of the scientists and other scholars among the refugees to arrive in the United States, several hundred of whom have been placed in positions where they can employ their special skills and talents. The Camp Kilmer office of the Academy will remain open indefinitely to assist refugees upon their arrival in the United States.

* * * * *

To facilitate the efforts of the Academy group, all interviews will be **by appointment only.** Those wishing an interview should complete the attached form. All such requests will be acknowledged by letter. If the information which you give indicates that the National Academy of Sciences can be of assistance, you will be invited to come to the office on a specified date for a professional interview, at which time you will have an opportunity to discuss in detail the work in which you possess special competence.

In undertaking the above program the Academy will work closely with the universities and technical institutes of Austria, who have opened their doors and their hearts to their colleagues from Hungary. Some of you may have found permanent positions in these fine institutions and should be encouraged to remain. It is assumed that refuge scientists who have been offered permanent professional employment in Austrian universities or industrial laboratories will not find it advantageous to request an interview.

Distribution of the above statement had a surprising effect. Many scientists who had not requested immigration to any country and had not registered with any of the voluntary agencies literally came out of the woods. This development caused the Academy's team some concern because it had been expressly stated that refugee scientists who had found permanent professional employment in Austria should be encouraged to remain. But as it turned out, these people had no employment and urgently desired to find positions in other countries. Many of them are now on their way to the United States.

Soon after the establishment of the Academy's Vienna office the press exploded a bombshell that hit the Hungarian refugees

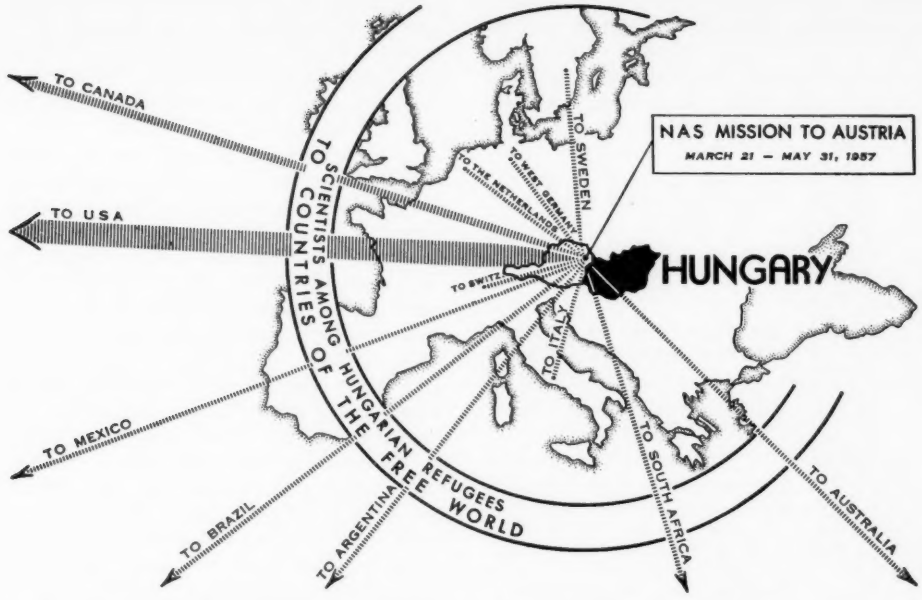

Figure 3.—Between March 21, and May 31, 1957, the Academy's Mission to Austria interviewed about 375 Hungarian scientists and engineers. Approximately 300 wished to go to the United States and were favorably recommended to the U. S. Immigration and Naturalization Service. Members of families will increase the total number of Hungarians to reach the United States under the Academy's program to approximately 1,000. Nearly 75 chose to go to other countries and were assisted in making arrangements for such immigration through appropriate authorities in Vienna, or through national scientific organizations in the countries concerned.

and seriously jeopardized the Academy's mission to Austria. The local newspapers announced that the United States had closed its doors; no more Hungarian refugees would be admitted. How would this affect the Academy's program? What explanation of this unforeseen development could be made to the refugees?

Fortunately, the newspaper reports were incorrect. The door was closing, but refugees would continue to go to the United States under a restricted program. Trans-Atlantic cables finally clarified the picture, and the Academy was advised to continue its operations.

In a period of less than 8 weeks, 375 persons were interviewed (see fig. 3). Dr. Arnold maintained a daily schedule from 8:30 to 6:00, 6 days a week. He was later aided by Arpad Csapo of the Rockefeller Institute who interviewed the majority of the medical people among the refugees who called at the Academy's office. Additional professional interviewers included Samuel H. Williams, professor of zoology at the University of Vienna; Gabor Szego, professor of mathematics at Stanford University; and Lester Hawkins, a physicist on the staff of the U. S. Army Attache. The professional contributions of these American scientists, some of them temporary residents of Austria, made it possible for the Academy to carry out its mission. Professor Williams, who assisted hundreds of the refugees during and following the October revolution, became a regular and welcome member of the team.

Although one of the functions of the Vienna office was to interview scientists among the refugees, the most important function was to assist these people to go to the countries of their choice. This meant daily contact with the INS in behalf of those wishing to go to the United States, and frequent letters or telephone calls to immigration officers in the embassies and

legations of other countries. The cooperation received from these quarters was excellent and always cordial. Everyone seemed to have the same objective: to assist the Hungarian refugees in their quest for resettlement (see fig. 4).

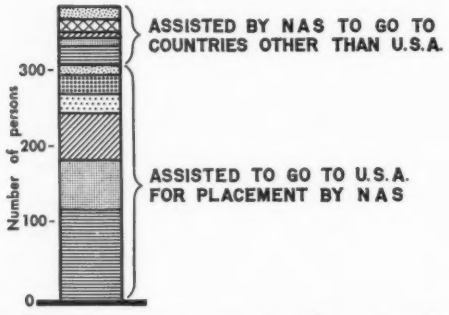

Figure 4.—As a consequence of recommendations made by the Academy's Mission to Austria, approximately 300 professionally trained Hungarian scientists and engineers will come to the United States and nearly 75 will go to other countries. Many of the latter group were given letters of introduction to scientific colleagues in the countries where they will go. (Symbols indicating the composition of these two groups are the same as those used in fig. 1.)

Reports indicate that very few refugees seeking opportunities outside Austria failed to learn of the Academy's Mission, and all those whom the Academy believed it could assist within its restricted program were interviewed before the Mission departed. Although it is not possible as yet to say how many of these people will reach the countries of their choice, information currently available indicates that very few will fail to realize their desires.

In concluding this report on the Academy's role in the Hungarian scientists' fight for freedom, a very brief summary may be appropriate. This was a new type of activity for the Academy and, consequently, new methods of operation had to be devised. The major objectives of the Academy's participation in large measure have been attained. Many fine young scientists and other professionally trained people, who rejected the yoke of communism, were helped to find new homes and opportunities in countries of the free world. Austria, which opened its borders to over 170,000 Hungarian refugees was assisted in its great task of resettlement, and hundreds of highly skilled and talented Hungarian scholars were placed in the matrix of American technology in positions advantageous to themselves and to the educational and industrial institutions of the country. Although the daily influx of Hungarian scientists has nearly ended, the Academy will maintain its Brooklyn office so long as it is needed to assist the remaining emigres to find places where they can exercise their talents in personal and scientific freedom.

SCIENCE NEWS

ANNUAL MEETING NATIONAL ACADEMY OF SCIENCES

The ninety-fourth annual meeting of the National Academy of Sciences was held in Washington, April 22–24, with about two hundred and twenty members in attendance. The program included scientific sessions on Monday, April 22, and Wednesday, April 24, scientific exhibits and demonstrations followed by a reception on Monday evening, a business session on Tuesday, April 23, and the annual dinner and medal presentation Tuesday evening.

The scientific sessions featured three symposia on subjects of timely interest. On Monday, April 22, a morning and afternoon session were devoted to a Symposium on Genetics and Radiation Hazards under the chairmanship of G. W. Beadle of the California Institute of Technology. Introduced by a paper on "The Scope of Genetics" by Curt Stern of the University of California, the symposium covered topics ranging from the nature of genetic material and gene function, and spontaneous and induced mutations, to human genetics and the genetic hazards of atomic radiation. This comprehensive review by eight leading geneticists illustrated the great advances in knowledge during the past few years along

with the great gaps in knowledge, especially in human genetics. Speakers placed in perspective radiation effects in relation to other aspects of mutation, emphasizing the large extrapolation of scientific data involved and the need for further scientific research.

On Wednesday morning, April 24, the symposium subject was biological rhythms. Paul Weiss of the Rockefeller Institute and six biological scientists discussed the manifold phenomena of a repetitive or cyclical nature encountered in the living world around us, ranging from entire plants and animals to cells, glands, and tissues. Some of these rhythms are coupled to diurnal and seasonal cycles produced by the periodic motion of the earth with respect to the sun. A particularly intriguing example is the self-sustaining, temperature independent oscillations in single cells with a period close to that of a solar day. Other rhythms such as the repetitive activity of nerve tissue have a more obscure origin, perhaps related to the relaxation oscillations of non-linear electrical or mechanical systems.

On Wednesday afternoon, April 24, the symposium was devoted to the physical properties of metals. The chairman, Frederick Seitz of the University of Illinois, gave an introductory talk, following which five papers were presented on the cohesive properties, diffusion, phase transformations, dislocation-determined properties, and internal dampening of metals in the light of modern developments in solid state physics.

Simultaneously with the invited papers at the symposia, sessions were held for invited papers. There were 37 contributed papers, 32 of which were by members of the Academy. These covered a wide variety of topics. Abstracts of them are given in *Science*, Vol. 125, pp. 746–752, 1957.

Guests of honor at the annual dinner on Tuesday evening, April 23, were Lloyd V. Berkner, President of the International Council of Scientific Unions (ICSU), who spoke briefly on ICSU and on the scientific aspirations of several nations of Asia as observed on a recent extended visit; and Dean Rusk, President of the Rockefeller Foundation, who gave the principal address. He dealt with the increasing complexity of the major problems confronting our society, requiring consideration of such a diversity of facts as to be beyond the knowledge of any single individual who is required to make executive decisions. He expressed the need for the discovery of organizing principles which would enable responsible leaders to master the elements needed for sound decisions.

Prior to the introduction of the guests of honor, three Academy medals were presented. The Kimber Genetics Medal for 1957 was awarded to A. H. Sturtevant, Professor of Genetics at the California Institute of Technology, "for his long and distinguished career as discoverer and interpreter of fundamental genetic phenomena, as observed not only in the fruit fly but also in a number of other organisms, plant and animal; and for his brilliant studies on the evolution of genetic systems."

The Daniel Giraud Elliot Medal for 1953 was awarded to Sven P. Ekman of Uppsala, Sweden, for his book "Zoogeography of the Sea," as the most meritorious work in zoology or paleontology published in 1953. The medal was received on Dr. Ekman's behalf by Sigvard Strandh, Scientific Adviser to the Ambassador of Sweden.

The Public Welfare Medal was presented to James R. Killian, Jr., President of the Massachusetts Institute of Technology. This particularly distinguished medal is unique among the Academy's medals being awarded for the application of science in the public interest, whether by a scientist or not, rather than for specific achievements in science.

Elections of officers and new members during the business session of the Academy on Tuesday morning, April 23, are reported elsewhere in this issue.

The business session on Tuesday afternoon was devoted to reports and discussions relating to the Academy's many activities and to broad questions of general concern to science and scientists.

While the members met in business session, the lady guests of the Academy visited the Institute of Home Economics at Beltsville, Md., lunched together, visited Woodlawn Plantation, and were entertained at tea by the American Institute of Architects at Octagon House.

ELECTION OF OFFICERS AND MEMBERS NATIONAL ACADEMY OF SCIENCES

At the annual business meeting of the Academy on April 23, Farrington Daniels, Professor of Chemistry at the University of Wisconsin, was elected to serve as Vice President for a four-year term beginning July 1, 1957, succeeding George W. Corner who has served since July 1, 1953. Dr. Daniels has been a member of the Council for the past three years. Harry L. Shapiro, Chairman of the Department of Anthropology of the American Museum of Natural History, and Frederick Seitz, Professor of Physics at the University of Illinois, were elected to membership on the Council of the Academy to succeed Farrington Daniels and Merle A. Tuve, who will complete their terms on the Council on June 30, 1957.

The following new members and foreign associates were elected to the Academy:

New Members of the Academy

CHARLES ALFRED ANDERSON, Chief, Mineral Deposits Branch, U. S. Geological Survey

EDWIN BENNETT ASTWOOD, New England Center Hospital and Professor of Medicine, Tufts Medical School

JOSEPH CHARLES AUB, Massachusetts General Hospital and Professor of Research Medicine, Harvard Medical School

HENDRIK WADE BODE, Director of Research in Physical Sciences, Bell Telephone Laboratories, Inc.

HERBERT CHARLES BROWN, Professor of Chemistry, Purdue University

EDWIN HARRIS COLBERT, Curator of Fossil Reptiles and Amphibians, American Museum of Natural History

JOSEPH LEO DOOB, Professor of Mathematics, University of Illinois

PAUL MEAD DOTY, Professor of Chemistry, Harvard University

CHARLES STARK DRAPER, Professor of Aeronautical Engineering, Massachusetts Institute of Technology

WALTER M. ELSASSER, Professor of Physics, Scripps Institution of Oceanography

KATHERINE ESAU, Professor of Botany, University of California at Davis

JESSE LEONARD GREENSTEIN, Staff Member, Mount Wilson and Palomar Observatories

ALEXANDER HOLLAENDER, Director, Biology Division, Oak Ridge National Laboratory

DONALD FREDERICK HORNIG, Professor of Chemistry, Princeton University

JOSEPH KAPLAN, Professor of Physics, University of California at Los Angeles

CHARLES KITTEL, Professor of Physics, University of California at Berkeley

HEINRICH KLÜVER, Professor of Experimental Psychology, University of Chicago

ARTHUR KORNBERG, Professor of Microbiology, Washington University School of Medicine

JOSHUA LEDERBERG, Professor of Medical Genetics, University of Wisconsin

HOWARD JOHNSON LUCAS, Emeritus Professor of Chemistry, California Institute of Technology

ALDEN HOLMES MILLER, Professor of Zoology, University of California at Berkeley

HALLAM LEONARD MOVIUS, JR., Curator of Palaeolithic Archaeology, Peabody Museum, Harvard University

SEVERO OCHOA, Professor of Biochemistry, New York University College of Medicine

ROGER RANDALL REVELLE, Director, Scripps Institution of Oceanography

LEONARD ISAAC SCHIFF, Professor of Physics, Stanford University

JOHN CLARK SHEEHAN, Professor of Chemistry, Massachusetts Institute of Technology

JOSEPH EDWIN SMADEL, Associate Director, National Institutes of Health

CYRIL STANLEY SMITH, Professor of Metallurgy, University of Chicago

ROBERT RATHBUN WILSON, Professor of Physics, Cornell University

JERROLD REINACH ZACHARIAS, Professor of Physics, Massachusetts Institute of Technology

Foreign Associates

HEINZ HOPF, Professor of Mathematics, Swiss Federal Institute of Technology, Switzerland

NEVILL FRANCIS MOTT, Cavendish Professor of Experimental Physics, University of Cambridge, England

EDGAR WILLIAM RICHARD STEACIE, President, National Research Council, Canada

HUGO THEORELL, Professor of Biochemistry, Nobel Institute of Medicine, Sweden

PREVENTION OF DETERIORATION CENTER

The annual meeting of the Scientific Advisory Committee for the Prevention of Deterioration Center was held on May 28 at the National Academy of Sciences. Robert C. Elderfield, Chairman of the Advisory Committee, presided.

The afternoon session was devoted to a Conference on Deterioration of Plastics, Rubbers, and Protective Coatings to which the scientific public was invited. The two main addresses were given by Burnard S. Biggs, Bell Telephone Laboratories, who spoke on "Deterioration of Rubber and Plastics: The Induction Period in Oxidative Deterioration"; and by John C. Moore, Coatings Research Group, Inc., who spoke on "The Deterioration of Protective Organic Coatings." A lively discussion period followed each presentation.

DIVISION OF EARTH SCIENCES ANNUAL MEETING

The Division of Earth Sciences held its annual meeting on Saturday, April 27. Five new Division members, nominated by cooperating societies for 3-year terms beginning July 1, were approved by the Division during the business sessions and have subsequently been appointed by the President of the National Academy of Sciences. The new members are:

J. D. H. DONNAY, Mineralogical Society of America
C. L. GAZIN, Society of Vertebrate Paleontology
OSBORN M. MILLER, American Geographical Society
HANS H. NEUBERGER, American Meteorological Society
RALPH D. WYCKOFF, Society of Exploration Geophysicists

Following the regular business meeting attended by Division members and members-elect, a general session was held devoted to a "Conference on Basalt" with the speakers giving summaries of their field and laboratory data and their interpretations of results and significance. Questions and comments were injected freely by the audience, and there was ample discussion between papers and at the end of the session. C. A. Anderson, U. S. Geological Survey, described the andesite-basalt relationships in southern Oregon and northeastern California. H. A. Yoder, Carnegie Institution of Washington, presented the results of laboratory experimentation on tholeitic materials at various temperatures and pressures and their significance for hypotheses on crystallization history and differentiation of basaltic magmas. The basalts of the Snake River Basin and of the Columbia River Plateau were described by H. A. Powers, U. S. Geological Survey, and Aaron Waters, Johns Hopkins University, respectively. Brief summaries of relationships in the John Day Basin, Hawaii, and the Bearpaw Mountains were given by T. P. Thayer, Ray E. Wilcox, and David Stewart, all of the U. S. Geological Survey.

The annual meeting and conference were attended by about 75 members and guests of the Division. The meeting was entirely informal and no report is being made of the talks or the discussion.

CONFERENCE ON HEMOGLOBIN

A Conference on Hemoglobin was held on May 2 and 3 under the sponsorship of the Subcommittee on Blood and Related Problems with the support of the National Advisory Heart Council of the National Institutes of Health. The purpose of the conference was to review the very rapid progress in this field in recent years and to afford an opportunity for further exchange of information by workers actively engaged in the investigation of the structure and biosynthesis of hemoglobin, the characterization of normal and abnormal hemoglobins, and the clinical characteristics associated with the abnormal hemoglobins. Responsibility for planning the conference was shared by John T. Edsall of Harvard University, Irving M. London of the Albert Einstein College of Medicine, and George E. Cartwright of the University of Utah College of Medicine, each of whom served as chairman for a portion of the program.

In attendance were most of the leading investigators who have contributed to the present degree of understanding of hemoglobin, including physical and biological chemists, geneticists, immunologists, and clinicians. Participants from abroad were Yves Derrien and Georges Schapira of France, and F. J. W. Roughton, Max Perutz, and V. M. Ingram of England. The attendance of almost two hundred investigators was indicative of the interest and importance of the conference.

The last large conference on hemoglobin was held in honor of Joseph Barcroft at Cambridge, England, in 1948. The following year Linus Pauling and Harvey Itano reported on the molecular nature of sickle cell hemoglobin and showed that the only demonstrable difference between normal and sickle hemoglobin was a lower solubility of the reduced form and a changed electrophoretic mobility of the sickle hemoglobin. Since that time the development of improved techniques for fractionation and characterization of protein and peptide materials has contributed a wealth of understanding of the molecular basis for a genetically transmitted disease.

In the conference just held, Dr. Edsall gave an excellent introduction outlining

current concepts of structure; Dr. Roughton described individual velocity constants in the chain of reactions of hemoglobin with dissolved gases and presented a paper on behalf of Drs. Gibson and Ainsworth of Cambridge on the effect of pH and para chloromercuribenzoate, an agent which combines with sulfhydryl groups, on the combination of carbon monoxide with hemoglobin. Philip George and R. L. J. Lyster reviewed their evidence for a crevice configuration of the heme in hemoglobin, and Max Perutz and Howard Dintzis summarized their X-ray crystallographic studies bearing on the structure of hemoglobin.

The biosynthesis of porphyrins was discussed by David Shemin, Lawrence Bogorad, and Sam Granick, and the role of iron and copper in the formation of heme was reviewed by Clement A. Finch and George Cartwright. Globin formation was covered by Henry Borsook, Irving London, and Walter L. Hughes.

The abnormal hemoglobins were discussed from the standpoint of their characterization by Harvey Itano, Henry Kunkel, Amoz Chernoff, and in absentia by Titus H. J. Huisman. Immunologic differences were outlined by Dr. Chernoff. The heterogeneity of human hemoglobins was detailed by Drs. Schapira and Derrien, and by Park Gerald. Several additional forms of hemoglobin, only a few of which are associated with any disease state, have now been identified through use of electrophoresis, differential solubility, and column chromatography. The structural basis for differences in electrophoretic behavior were described by I. Herbert Scheinberg, and amino acid analyses were reported by William Stein and by Dr. Ingram.

The final afternoon was highlighted by an outstanding philosophical review of the genetic aspects of abnormal hemoglobins by James Neel and by an excellent discussion of the clinical characteristics associated with abnormal hemoglobins by Ernest W. Smith, Helen M. Ranney, and Dr. Chernoff.

One of the notable contributions was that of Dr. Ingram, who showed that sickle hemoglobin differs from normal hemoglobin A only in the substitution of one molecule of valine for one of glutamic acid in two of the four peptide chains which make up the hemoglobin molecule. Hemoglobin C, also abnormal, differs by a different change of one amino acid in the same portion of the peptide chain of each half of the hemoglobin molecule. For the first time, both a genetic change and the pathology of a disease can be understood in terms of a specific molecular change. With so many new techniques for studying the nature of the various hemoglobins and their reactions, and the exciting promise of such lines of effort as X-ray crystallography, immunophoresis, electrophoresis, and chromatography, the members of the conference looked forward to even greater advances in the next few years. These must surely bring a much better understanding of the many puzzling properties of hemoglobin and other body proteins and of their correlation with genetic factors.

VISIT OF JAPANESE RESEARCH TEAM

A study team of 11 specialists from Japanese research organizations visiting the United States under the auspices of the International Cooperation Administration were guests of the Academy–Research Council on April 19. The Division of Engineering and Industrial Research arranged a briefing session in which Dr. Cornell, Executive Officer of the Academy–Research Council, welcomed the visitors and briefly described the activities of the Academy–Research Council. Following a description of the Division's activities by Louis Jordan, the Executive Secretary, Raymond J. Woodrow of Princetown University and Howard S. Turner of Jones and Laughlin Steel Corp. outlined the work of the American Society for Engineering Education, the Engineering College Research Council, the Industrial Research Council, and other groups concerned with the organization and administration of industrial research. After a brief summary of the activities of the Division of Chemistry and Chemical Technology by Clem O. Miller, Executive Secretary of the Division, the visitors and other guests were served tea in the auditorium.

ANNUAL MEETING
DIVISION OF CHEMISTRY AND CHEMICAL TECHNOLOGY

The annual meeting of the Division of Chemistry and Chemical Technology was held at the Academy–Research Council building on Monday, May 27, with about 85 percent of the membership in attendance. Each committee of the Division and its attendant subcommittees reported on their activities for the past year and a free discussion of the potentials of each research group ensued.

Among the highlights of the Division meeting were the reports of achievement by the six subcommittees of the Committee on Biological Chemistry. They related the progress that had been made in setting up standards of quality for certain biochemical products used in research. These include: purines and pyremidines, amino acids and peptides, coenzymes, enzymes, lipids, and carbohydrates. Difficulties in obtaining consistent results from similar studies involving substances in these categories were believed to be due in part to variation in contaminants.

The Subcommittee on Kinetics of Chemical Reactions issued Supplement 1 to the National Bureau of Standards Circular 510 entitled "Table of Chemical Kinetics." The compilation was made under the direction of Charles H. Stauffer with the aid of collaborators on the Chemical Kinetics Data Project at Worcester Polytechnic Institute.

The Division also discussed the problems facing certain specialized research areas such as the Office of Critical Tables and the new Committee on Design, Construction, and Equipment of Laboratories which is actively at work assembling data for the third revision of "Laboratory Design." This revision will include a new section devoted to highschool laboratories. Some time was also devoted to the Toxicological Center of the Division, established on January 15, 1957, to collect and be a source of information on toxicity of chemical compounds for governmental agencies. At present nine major projects are under investigation.

The Subcommittee on Photochemical Storage of Energy outlined the plans for a symposium on photochemistry of solid and liquid systems to be held later this year. Attendance is to be by invitation and the participants will include investigators known internationally for their researches in this field.

ANNUAL MEETING
DIVISION OF BIOLOGY AND AGRICULTURE

The annual meeting of the Division of Biology and Agriculture was held on May 3 and 4. Succinct reports of Division activities had been sent to the members in advance and, therefore, at the meeting reports of these activities were presented briefly and questions and discussion followed. On the evening of May 3, Division members, staff, and guests heard a talk by the Vice Chairman of the Division, Paul C. Mangelsdorf, on "The Collection and Preservation of Germ Plasm of Maize."

Division members approved of current activities and urged that even more be done to help biologists and to strengthen biology generally. For example, the members wished the Division to find out to what extent retired biologists are being professionally utilized and, if their experience and talents are being neglected, to recommend what might be done about it and to enlist the support of the Academy–Research Council in effecting remedial action.

The feeling that the Academy–Research Council ought to make itself and its views better known was quite marked. Believing that a recommendation from the Academy–Research Council would help procure needed research support, the members voted to urge intensified research on untoward effects of pesticides and related chemicals on plants, animals, and man.

Thirty-four national societies in pure or applied biology are now affiliated with the Division and have designated representatives. The following representatives of newly affiliated societies attended the annual meeting for the first time:

JOHN B. BUCK, Society of General Physiologists
JOHN M. FOGG, JR., American Society of Plant Taxonomists
ARNOLD J. LEHMAN, American Society for Pharmacology and Experimental Therapeutics
ELLIS L. YOCHELSON, The Paleontological Society

ANNUAL MEETING
DIVISION OF ENGINEERING AND INDUSTRIAL RESEARCH

The annual meeting of the Division of Engineering and Industrial Research was held at the Academy–Research Council building on May 20. After a brief business session, S. Douglas Cornell, Executive Officer, presented a summary report of Academy–Research Council activities during the fiscal year 1956–1957. E. C. Bain, Chairman of the Division, introduced the remainder of the program dealing with Division interests and activities.

Dr. Bain noted that there was a significant unity to the presentations which followed. Taken together they dealt with the various ways in which people and goods are transported over the world's large land masses as well as over seas and the way in which ideas are transmitted from person to person, country to country, and generation to generation. He said that the very developments which have enabled the movement of men and goods and ideas to and from the far corners of the earth have also contributed to the explosive growth of the world's population, with the result that transportation facilities are now causing many of the major difficulties of the world, particularly in urban complexes.

The first speaker, Professor K. B. Woods of Purdue University, dealt with the social and economic aspects of transportation research. As Chairman of the Highway Research Board's Advisory Committee on the American Association of State Highway Officials (AASHO) Road Test, now in its second year at Ottawa, Ill., Professor Woods briefly described the road test, the role of the Highway Research Board in conducting it, and the effect of this large-scale test upon the future of the multi-billion dollar national road program. In conclusion he stated:

> The total impact of this new program is of such an order of magnitude and the interrelationship between communities and people so complex that the Academy–Research Council must soon give careful consideration towards forming a transportation research group to include all forms of transportation—highways, waterways, airways, railways, and pipelines.

Vice Admiral E. L. Cochrane, U. S. Navy ret., Massachusetts Institute of Technology, described the activities of the Maritime Cargo Transportation Conference from his position as Chairman of that body. Admiral Cochrane also emphasized the expanding scope of the Conference's activities. At the end of its fourth year of operation, the Conference is winning the trust and cooperation of powerful groups of widely differing interests in this field of great significance to our peacetime economy and wartime survival.

The Academy–Research Council provides an opportunity in such circumstances for the fact-finding research which may provide a more useful basis for negotiations, decisions, and policies of groups which previously have given more weight to customs, habits, and attitudes than to engineering research and quantitative data. Admiral Cochrane noted that the Conference had already indicated several ways in which the turnaround time of ships could be reduced and expressed the view that forthcoming research may well succeed in demonstrating that cooperative improvements can be instituted which will benefit shipping interests, the maritime laboring force, and the general public.

Frank T. Sisco, Director of the Engineering Foundation, and C. D. Gull, Administrative Officer of the Division, discussed a proposed pilot project for the storage and retrieval of engineering information. The techniques currently employed are 50 to 60 years behind the general level of scientific and industrial technology. Mr. Sisco stressed that only the American Society for Metals has directly supported any research in this difficult area. He described a classification published in 1950 and the punched cards which can be used with it to control metallurgical literature. At present the American Society for Metals is sponsoring work at the Western Reserve University Center for Documentation Research in improving techniques for abstracting, storing, and retrieving metallurgical literature by employing a machine language.

Mr. Gull outlined the efforts to define a pilot project for the storage and retrieval of information based on the metal-

lurgical classification now under revision. The pilot project would directly compare two well-known methods, classification and subject headings, with a recently developed method known as coordinate indexing which is based upon the use of certain elementary operations of mathematical logic. Both speakers stressed that the sheer quantity of information requires that mechanical and electronic devices be employed to control information.

Nathaniel Rochester, Director of Information Research, International Business Machines Corporation, Poughkeepsie, N. Y., described a number of applications and possible uses of high-speed calculators in engineering and research. He pointed out that certain activities of the Academy–Research Council, such as the earth-moving requirements of the Highway Research Board's AASHO Road Test, the investigations of the quality of ship steel, and the observations of the International Geophysical Year, could not be undertaken without computers to carry the burden of necessary calculations.

Mr. Rochester demonstrated that the existence of computers and high-speed calculators has already determined that engineers and research men today, and especially in the future, will be thinking a great deal more and spending less time in clerical mathematical operations.

CONFERENCE ON PROBLEMS OF TEKTITES

The recent increase of interest and research in tektites has led the Academy–Research Council to organize a conference on the problems of tektites to be held in Washington, D. C., on June 17 and 18, with Dr. Irving Friedman, U. S. Geological Survey, serving as Conference Organizer. Questions such as "Are tektites of volcanic origin?" and "Are tektites from outer space?" have spurred interest and led to bringing together the principal investigators. The National Science Foundation is cooperating by supplying funds for travel expenses of some of the principal participants. Inquiries about the conference should be sent to the Division of Earth Sciences, Academy–Research Council.

ANTHROPOLOGY AND PSYCHOLOGY

The following members of the Division of Anthropology and Psychology have been appointed for a 3-year term commencing July 1:

Anthropologists

GLENN A. BLACK, Angel Mounds, Newburgh, Ind.
WILLIAM S. GODFREY, Executive Secretary, American Anthropological Association
JOSEPH H. GREENBERG, Columbia University
EVON Z. VOGT, Harvard University (member-at-large)

Psychologists

WILLIAM K. ESTES, Indiana University
HARRY HELSON, University of Texas
VINCENT NOWLIS, University of Rochester

In addition John C. Eberhart of the Commonwealth Fund and Allan R. Holmberg of Cornell University were appointed the psychology member and the anthropology member, respectively, of the Executive Committee. Their appointments are for one year beginning July 1.

The Academy–Research Council has approved the recommendation of the Division that a Committee on Primatology be established under the chairmanship of Harry F. Harlow, University of Wisconsin.

1958–59 FULBRIGHT AWARDS

The Committee on International Exchange of Persons has announced the 1958–59 Fulbright awards for university lecturing and advanced research in the following countries: Austria, Belgium and Luxembourg, Denmark, Finland, France, Germany, Greece, Israel, Italy, Japan, The Netherlands, Norway, Turkey, the United Kingdom and Colonial Territories.

Also available for 1958–59 are awards in certain Latin American countries—Argentina, Chile, Colombia, Ecuador, and Peru—and in Pakistan in several scientific fields: chemistry, geology, nuclear physics, soil science, plant physiology, and medicine.

The closing date for making applications for Europe and the Near East is October 1, 1957. The Committee will accept applications for awards in Latin American and Pakistan until such time as the individual country panels have been completed. Application forms and detailed program information may be obtained from the Committee on International Exchange of Persons, Academy–Research Council.

AMERICAN GEOPHYSICAL UNION ANNUAL MEETING

The 38th annual meeting of the American Geophysical Union was held April 29–May 2 in the auditoriums of the Academy–Research Council Building, the General Services Building, and the District of Columbia Chapter of the American Red Cross. There were over 1100 registrants from the United States, Canada, and various foreign countries. Scientific sessions were held by the eight sections of the Union and some 160 papers were presented.

The 30 papers delivered in the sessions in volcanology, geochemistry, and petrology included a number on geological age determination and the geochemistry of rare minerals. The Hydrology Section held an all-day symposium on the radioactivity of natural water, and there was an active session of the Seismology Section on the recent earthquakes in the Aleutian Islands and the San Francisco area.

The 11 sessions of the Meteorology Section were held jointly with the American Meteorological Society and such session themes as recent developments in radar meteorology, the current work on atmospheric diffusion, numerical and objective weather prediction, the theory of atmospheric motions, and the upper atmosphere were developed.

The special feature of the smoker on the evening of April 29 was an advance showing of the new Bell Laboratories color cinema on cosmic radiation. At the evening session on April 30, Maurice Ewing of the Lamont Geological Observatory was awarded the William Bowie Medal. The main address of the evening was delivered by Walter H. Munk of the Scripps Institution of Oceanography who chose for his subject "Rotation of the Earth: A Geophysical Discussion."

The General Assembly of the Union was held in the afternoon of May 1 and was devoted to a symposium on "Frontiers in Geophysics." The three speakers and the titles of their papers were: "Scientific Uses of Artificial Earth Satellites," Homer E. Newell Jr., Naval Research Laboratory; "Physical and Statistical Approaches to the Problem of Weather Prediction," Sverre Petterssen, University of Chicago; and "The Measurement and Applications of Mineral Ages," L. T. Aldrich, Carnegie Institution of Washington.

SEMINAR IN APPLIED MATHEMATICS

A seminar in applied mathematics, arranged by the American Mathematical Society with the help of the Division of Mathematics, will be held at the University of Colorado at Boulder, June 23–July 19, under the sponsorship of the Air Force Office of Scientific Research, the Atomic Energy Commission, the National Science Foundation, the Office of Naval Research, and the Office of Ordnance Research of the U. S. Army. The Division of Mathematics helped with the initial arrangements for the seminar and supplied all the necessary secretarial assistance, and the University of Colorado has taken charge of all local arrangements.

The American Mathematical Society in conjunction with the Division of Mathematics appointed the following Program Committee for the seminar:

M. H. Martin, Executive Secretary, Division of Mathematics, *Chairman*
P. R. Garabedian, Stanford University
A. S. Householder, Oak Ridge National Laboratory
Mark Kac, Cornell University
R. E. Langer, University of Wisconsin
C. C. Lin, Massachusetts Institute of Technology
William Prager, Brown University
J. J. Stoker, New York University

The primary purpose of the seminar is instructional with emphasis on basic courses in the field of solid mechanics, fluid mechanics, probability and partial differential equations. These subjects will be deepened and illuminated by a series of carefully planned special lectures.

The aim of the seminar is to give mature mathematicians an opportunity to become familiar with some of the major sectors in applied mathematics, and thereby respond to the increasing demand for people interested in the applications of mathematics, either by increasing the power of those already versed in the field, or by increasing the knowledge of the college and university teacher who seeks to acquaint his students with important new developments in applied mathematics.

INTERNATIONAL SYMPOSIUM ON SALINE WATER CONVERSION

Under the sponsorship of the Office of Saline Water of the U. S. Department of the Interior and the Academy–Research Council an International Symposium on Saline Water Conversion will be held in Washington, D. C., the first part of November 1957. The program for the meetings, developed by a committee of six scientists and engineers, covers such topics as power distillation, electrodialysis, osmosis, solar distillation, freezing, and other scientific approaches to the problem of conversion of saline water for agricultural, municipal, and industrial uses.

The objectives are to bring together on an international scale, active workers in these fields in the interest of reviewing and recording progress and stimulating new approaches to this important aspect of basic and applied science.

Approximately thirty invitational technical papers will be presented by participating scientists and engineers from the United States, the United Kingdom, Europe, Africa, and other areas of the world concerned with these problems. After the symposium, the papers will be published in the Academy–Research Council series of scientific and technical monographs.

Additional information about the symposium may be obtained from the Division of Physical Sciences, Academy–Research Council, 2101 Constitution Avenue, N. W., Washington 25, D. C.

STAFF APPOINTMENTS

The Committee on the Handbook of Biological Data has announced the appointment of **John Gibson** as a Research Analyst for the Handbook. Dr. Gibson received his M.D. degree from the Medical College of Virginia in 1940, after which he did eight years of postgraduate work in psychiatry, pulmonary diseases, and thoracic surgery. Before coming to the Academy–Research Council he was Chief of the Alcohol Addict Unit at D. C. General Hospital.

Elliot Rhian has been appointed Technical Aide to the Mine Advisory Committee. Mr. Rhian holds an M.S. degree in physics from Pennsylvania State University and before joining the Academy–Research Council staff was employed by the Ordnance Research Laboratory at the same university.

The Atomic Bomb Casualty Commission has announced that **Robert H. Holmes** will complete his present duties as Director of the Commission in July and will be succeeded by **George Darling,** Professor of Human Ecology at Yale University. During Dr. Holmes' three years as Director, the Commission has expanded its programs in internal medicine and in pathology, a radio-isotope laboratory has been established, and a city-wide Tumor Registry has been inaugurated in Hiroshima with the full cooperation of the City Medical Association.

Dr. Darling graduated from the Massachusetts Institute of Technology and received the degree of Doctor of Public Health from the University of Michigan in 1932. During World War II he worked on the National Research Council's program of research in military medicine. When this program terminated, he became Director of Medical Affairs at Yale University and held this office until he was appointed to the newly established professorship of human ecology in 1952.

The USA National Committee of the International Scientific Radio Union (URSI) has appointed **Mrs. Alice MacIntyre,** formerly with the Division of Physical Sciences, Executive Assistant to the Committee Secretary, John P. Hagan, at a recent meeting in Washington. Mrs. MacIntyre has also been named Executive Secretary of the General Arrangements Committee for the XIIth General Assembly of URSI to be held in Boulder, Colo., August 22–September 5. She fills the joint positions vacated by the death of **Mrs. Adeline Kincheloe.**

Miss Alice Lovely has been appointed Program Officer for the Committee on the International Exchange of Persons. Miss Lovely received her M.A. degree from Radcliffe College in 1950 and for the past six and a half years has served as the Educational and Cultural Assistant for the Embassy of Indonesia in Washington, D. C.

RECORD OF MEETINGS

March	
1	Technical Panel on Rocketry
	International Conference on Scientific Information, Program Committee
	Committee on Textile Fabrics, *Natick, Mass.*
4	Panel on Linear Programming on Manganese, *Princeton, N. J.*
	Steering Committee on Urban Research
	Subcommittee on the Nervous System
5	Sanitary Engineering Conference
	Building Research Institute, Nominating Committee, *New York City*
5–6	Building Research Advisory Board, Review Committee for FHA Study on Bituminous Surface Treated Streets
6–7	Conference on Education, Training, and Utilization of Sanitary Engineers
7–8	Committee on Animal Nutrition, Subcommittee on Hormones, *Madison, Wis.*
8	Committee on Foot Protection, *Springfield, Mass.*
	Committee on Sanitary Engineering & Environment
	Ad hoc Conference on Manual Methods of Artificial Respiration
9	Subcommittee on Waste Disposal
9–10	Medical Fellowship Board
10	National Research Council Postdoctoral Fellowship Board in the Natural Sciences
11–13	Committee on Archaeological Identification, *Chicago*
12	Building Research Institute, Executive-Finance Committee
13	Committee on Library
	Subcommittee on Atmospheric and Industrial Hygiene, *Dayton*
13–14	Conference on Cabin Air Contamination in Jet Aircraft, *Dayton*
14	Ad hoc USA National Committee for the International Institute of Refrigeration, Finance Subcommittee
	Organizing Committee for International Congress of Radiation Research
	Food Protection Committee and Industry Committee, Joint Meeting, *New Orleans*
	Building Research Institute, Committee for Conference on Adhesives and Sealants in Buildings
15	Committee on a National Atlas of United States
	Committee on Fats, *New Orleans*

March	
16	Division of Anthropology and Psychology, Annual Meeting
18–19	Subcommittee on Aerial Delivery Testing Equipment and Procedures, *Boston*
	Conference on Economic Impact of Highway Improvement
19	Materials Advisory Board
20	Conference on Urban Research
	Committee on Foods, Subcommittee on Animal Products, *Chicago*
20–21	Committee on Ship Steel
21	Advisory Board on Education
22	Division of Mathematics, Committee on Educational Policies
	Subcommittee on Thermal Factors in Environment
	Committee on Development of Substitutes for Waterfowl Feathers and Down, *Natick, Mass.*
23	American Geophysical Union, Committee on International Participation
25–26	Committee on Agricultural Meteorology and Climatology
25–27	Committee on Meteorology, *La Jolla, Calif.*
26	Building Research Advisory Board, Executive Committee
26–29	Titanium Sheet Rolling Program Panel and Sub-panels, *Los Angeles*
27	Federal Construction Council, Standing Committee (RC–1)
28	Ad hoc Committee on Science in Unesco
	Committee on International Exchange of Persons
28–29	Committee on Geography, Advisory to Office of Naval Research, *Cincinnati*
29	Subcommittee on the Cutaneous System
	Prosthetics Research Board, Annual Meeting
30	Division of Earth Sciences, Executive Committee
	Committee on Veterans Medical Problems
31	National Academy of Sciences—National Research Council, Governing Board
	American Geological Institute, Government Relations Committee, *St. Louis*
	American Geological Institute, Boy Scout Committee, *St. Louis*
31–April 3	American Geological Institute, *St. Louis*
April	
1	American Geological Institute, Executive Committee, *St. Louis*

April	
1	American Geological Institute, Glossary Committee, *St. Louis*
2	Federal Construction Council, Task Group on Underground Insulation & Conduits
	American Geological Institute, Public Relations Committee, *St. Louis*
	Committee on Textile Fabrics, *New York City*
3	Federal Construction Council, Operating Committee
	American Geological Institute, Board of Directors, *St. Louis*
4	Committee on Amino Acids
	Food and Nutrition Board, Executive Committee
	Committee on Protein Malnutrition
	Committee on Dietary Allowances
	Committee on Cereals
4–5	Committee on Foods, Subcommittee on Radiation Preservation, *Denver*
4–6	Food and Nutrition Board
5	Conference on Electrical Insulation, Executive Committee
5–6	Food and Nutrition Board
6	Committee on Primary Records, *New York City*
7	Division of Mathematics, Committee on Travel Grants, *Princeton, N. J.*
8	Committee on Pathology
	Committee on Rigid Pavement Design, Subcommittee on Continuous Reinforcement
8–9	Titanium Sheet Rolling Panel, Task Force
9	Committee on Cartography, Advisory to the Department of State
	Planning Committee for Industry-Education Conference, *Beverly Hills, Calif.*
10	Titanium Sheet Rolling Program Panel, Sub-panel on Rolling, *New York City*

April	
10	Maritime Cargo Transportation Conference, Steering Committee
11	Committee on Spectral Adsorption Data, *Miami, Fla.*
	Division of Engineering and Industrial Research, Executive Committee
12–13	Conference on Performance Capacity, *Chicago*
13	Planning Committee for Saline Water Conversion Symposium
15	Committee on Nutrition Studies Elgin State Hospital, *Chicago*
15–17	Building Research Institute, Annual Meeting, *Chicago*
19	Advisory Committee on Cardiovascular Literature, *Chicago*
20	Committee on Cancer Diagnosis and Therapy
	Subcommittee on Anesthesia
22–24	National Academy of Sciences, Annual Meeting
25	Building Research Institute, Planning Committee for Conference on Adhesives and Sealants
	Highway Research Board, Department Chairmen
27	USA National Committee, International Union for Pure and Applied Physics
	Division of Earth Sciences, Annual Meeting
	Committee on Disaster Studies
28	American Geophysical Union, Committee on International Participation
28–May 1	American Geophysical Union, Committee on Geophysics
29	Committee on Development for Air Research and Development Command Materials Program
29–May 2	American Geophysical Union, Annual Meeting
30–May 1	National Advisory Committee for AASHO Road Test, *Ottawa, Ill.*

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Lucke, Balduin, and Schlumberger, Hans G. *Tumors of the Kidney, Renal Pelvis and Ureter.* Washington, Armed Forces Institute of Pathology, 1957. *(Atlas of Tumor Pathology.* Section VIII, Fasc. 30.) 208 p., illus. $2.25. (Available from: American Registry of Pathology, Armed Forces Institute of Pathology, Washington 25, D. C.)

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National Research Council. Building Research Institute. *Windows and Glass in the Exterior of Buildings . . .* Washington, 1957. (NAS–NRC Publication 478.) 176 p. $5.00.

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National Research Council. Highway Research Board. *Accident Analysis and Impact Studies.* Washington, 1956. (NAS–NRC Publication 434. Highway Research Board Bulletin 142.) 50 p., illus. $1.00.

National Research Council. Highway Research Board. *Acquisition of Land for Future Highway Use: A Legal Analysis.* Washington, 1957. (NAS–NRC Publication 484. Highway Research Board Special Report 27.) 80 p., illus. $3.20.

National Research Council. Highway Research Board. *Driver Characteristics.* Washington, 1957. (NAS–NRC Publication 487. Highway Research Board Bulletin 152.) 37 p. $0.80.

National Research Council. Highway Research Board. *Durability of Concrete: Physical Aspects. Annotated.* Washington, 1957. (NAS–NRC Publication 493. Highway Research Board Bibliography 20.) 46 p. $1.00.

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